Amendments to the Specification:

Please add the following paragraphs before the first full paragraph on page 7 (starting with "One particular implementation..."). This material is incorporated from material found in **Auditory Scene Analysis**, A.S. Bregman (MIT Press, Cambridge, London 1990):

Auditory (acoustic) scene analysis is a means of addressing the problem of separating various sound sources from an auditory environment (or auditory signal). The auditory "scene" is analyzed to determine the constituent parts of an audio signal, and to identify the various sound sources, allowing sources of interest (e.g., a voice, music, etc.) to be emphasized and sources of disinterest (e.g., other sounds) to be de-emphasized.

A primitive grouping method as known in the art includes a primitive process of auditory scene analysis which implements a strategy of breaking down an incoming array of auditory energy into a number of separate analyses. These analyses are related to particular frequency regions of the acoustic spectrum at particular moments in time. These regions are described in terms of intensity, fluctuation patterns, frequency transition directions, and sound source locations, among others.

After accomplishing the various analyses, they are grouped in at least two dimensions: time (sequential integration) and frequency spectrum (simultaneous integration). These two forms of grouping may operate in conjunction.

Sequential (auditory stream) integration is influenced by a variety of factors, including timbre, a rate of the tonal sequence, and a frequency of separation between subsets of tones. The grouping of a sequence of auditory inputs are favored by factors that define the similarity and continuity of successive sounds, including their apparent spatial origin, their fundamental frequency, the shape and intensity of their spectra, and their temporal proximity. This grouping is then useful for identifying and separating the component sounds in the source signal.

Schemas (i.e., schemes) are units of mental control that are used by the

brain to capture particular classes of signals, such as music, speech, machine noises, and other environmental sounds. Schemas capture information about regularities in the environment.

Schema-based (i.e., scheme based) grouping can be used to regroup items that have already been grouped by the primitive grouping method, for example. Thus, sounds that have been separated can be regrouped as being "speech" or "music", for example, under schema based grouping. Schema-based grouping is used to group items to enable identification and processing of those items that are of interest, and thus being particularly sought-after. For example, if the intent is to emphasize speech, then schema-based grouping is used to group speech items together for that purpose.

Gestalt grouping uses principles from Gestalt theory to group items, including grouping according to the principles of frequency proximity, spectral similarity, and changes in correlations in acoustic properties. Visual Gestalt grouping is a well-known concept. Using similar principles applied to aditory processes, auditory sources can be grouped according to Gestalt principles, such that high tones tend to be closer to one-another than they are to low tones, for example. Gestalt theory applied to auditory sounds teaches us that the farther away the high tones are to the low tones, the more likely that they are grouped separately. As sound sources move farther away from one-another in frequency, "within-group" (e.g., high tones) attractions overcome "between group" (high tones vs. low tones) attractions.

Gestalt theory works on the principle of groupings formed where members of a group "go together", based on certain criteria, better than they go with another group. This "go togetherness" may be determined, for example, by analyzing human brain responses to auditory signals. Accordingly, Gestalt principles of grouping provide a set of rules useful for analyzing an acoustic scene.